

CLAIMS

What is claimed is:

1. A data scanner for driving a liquid crystal display (LCD), comprising:
a data bus, the data bus containing digital data;
5 a row buffer coupled to the data bus for receiving and distributing the digital data received from the data bus; and
a switch network coupled to the row buffer, the switch network converting digital data received from the row buffer to analog data using column load capacitances on adjacent pairs of column lines of the LCD.
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2. The data scanner of claim 1, wherein the switch network includes a plurality of switching devices, each switching device coupled to an adjacent respective pair of column lines of the LCD.
- 15 3. The device of claim 2, wherein each switching device includes:
a logic circuit, the logic circuit receiving digital data from the row buffer;
at least three MOSFETs, the MOSFETs converting the received digital data received from the logic circuit to analog data and
20 transmitting the analog data through respective column lines.
4. The device of claim 3, wherein the MOSFETs are n-channel MOSFETs.
5. The device of claim 3, wherein the MOSFETs are p-channel MOSFETs.
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6. The device of claim 3, wherein the MOSFETs are a combination of n-channel MOSFETs and p-channel MOSFETs.

- 5 7. The device of claim 1, where a first column line of the pair of column lines is coupled to alternating pixels in a first column of pixels and a second column line of the pair of column lines is coupled to alternating pixels in a second column of pixels, the pixels of the first column line being in alternating rows with respect to the pixels in the second column line.
- 10 8. The device of claim 7, where the pixels are arranged in a rectangular layout for a black and white display.
9. The device of claim 7, where the pixels are arranged in a delta layout for a color display.
- 15 10. A method for driving a liquid crystal display (LCD), comprising:
 receiving digital data in a row buffer;
 distributing the digital data to a switch network;
 converting the digital data to analog data using column load capacitances on adjacent pairs of column lines of the LCD.
- 20 11. The method of claim 10, wherein the switch network includes a plurality of switching devices, each switching device coupled to an adjacent respective pair of column lines of the LCD.
- 25 12. The method of claim 11, wherein each switching device includes:
 a logic circuit, the logic circuit receiving digital data from the row buffer; and
 at least three MOSFETs, the MOSFETs converting the received digital data received from the logic circuit to analog data and transmitting the analog data through respective column lines.
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13. The method of claim 12, wherein the MOSFETs are n-channel MOSFETS.
- 5 14. The method of claim 12, wherein the MOSFETs are p-channel MOSFETS.
- 15 15. The method of claim 12, wherein the MOSFETs are a combination of n-channel MOSFETS and p-channel MOSFETS.
- 10 16. The method of claim 10, where a first column line of the pair of column lines is coupled to alternating pixels in a first column of pixels and a second column line of the pair of column lines is coupled to alternating pixels in a second column of pixels, the pixels of the first column line being in alternating rows with respect to the pixels in the second column line.
- 15 17. The method of claim 16, where the pixels are arranged in a rectangular layout for a black and white display.
- 20 18. The method of claim 16, where the pixels are arranged in a delta layout for a color display.